

Operational research and COVID-19

The COVID-19 pandemic has opened a new frontier for primary healthcare (PHC) and population-based operational research. Basic biomedical science and technology are more highly reputed than operational research. As a result of this, operational research, especially at PHC level, often receives little attention. Clinical trials, usually funded by industry or multinationals, are highly competitive, specialist-dominated and exclusive of pilot studies, and usually favour innovation rather than comparative effectiveness studies.^[1] With the exception of HIV studies, community- or population-based trials, especially in PHC settings, are often ignored, especially in rural areas. As a result, health outcomes in many communities remain poor. In spite of rapid advances in medical care across the world, today's reality is that many communities are disconnected from existing healthcare services owing to the inability of the health system to meet their needs and provide them with modern healthcare to improve their health outcomes, a key to achieving universal health coverage. In addition, evaluation of the impact of large-scale public health interventions is multifaceted, and the pathways to impact are complex and subject to effect modification. Operational research can be used to enhance the quality, effectiveness or coverage of the programmes in which the research is being carried out.^[2] During the COVID-19 pandemic, operational research can be used to quickly improve disease control strategies, vaccination rollout and uptake, as well as to monitor treatment effectiveness.

An intervention that works well in a controlled setting may be ineffective elsewhere, presenting a huge challenge to international health recommendations. Interventions must be tailored to meet the needs of the community they are intended to assist. COVID-19 prevention strategies have highlighted issues such as lack of water and sanitation, and overcrowding of homes, which hamper disease control. True evidence-based public health interventions for diseases of public health importance (such as diabetes, hypertension, tuberculosis and HIV) must rely on a variety of types of evidence, often in combination. Whereas evidence-based public health must continue to draw on randomised controlled trials as an important source of information, at the same time, existing standards and methods must be adapted to meet the methodological challenges of evaluating large-scale public health interventions. Looking at this field, however, there still is a huge gap in identification of appropriate health technology interventions to manage these diseases and associated multimorbidities at the PHC level, and the appropriate methodology to evaluate them.

Additionally, the medical practitioners (such as general practitioners, and family medicine and public health medi-

cine specialists) who work in these settings are often left out of the system owing to lack of research training or experience. Engaging this group of clinicians would require establishing inventories, providing materials, engaging practices interested in research and networking and providing information and peer support.^[3] Building capacity to conduct clinical research, especially clinical trial and data governance, is fundamental to this approach.

Community-oriented primary care, where geographically based, comprehensive generalist care combines practice with science, delivered through services that are equitable and integrated around users,^[4] could be a model for clinical trial sites. These settings could also be used to conduct outcome-based research using routine clinical data.^[5] Working from a patient-centred, community-oriented understanding of people and places would assist in supporting ongoing care of each patient through co-ordination of care based on mobilisation of their families or support systems, as well as a transdisciplinary team of professionals and service providers across sectors and within and between facilities, departments and service levels.^[2]

We believe this approach would assist in strengthening health systems that connect 'disconnected' communities to basic healthcare without increasing the already high pressure on healthcare systems, and without causing financial hardship for the communities and individual patients involved, and better prepare us to manage future epidemics.

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